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Merrill S. Spiegel
Vice President
Government Affairs

September 5, 2000

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SEP 5 2000

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, S.W.
TW-A325
Washington, DC 20554

Re: In the Matter of Compatibility Between Cable Systems and Consumer
Electronics Equipment, PP Docket No. 00-67

Dear Ms. Salas:

This is to advise you that on Wednesday, August 30, 2000, Nathan B. Zerbe, Robert H. Plummer, and the undersigned, all of DIRECTV, Inc., met with Jonathan Levy and Amy Nathan, both of the Office of Plans and Policy; Bruce Franca, Office of Engineering and Technology; and Bill Johnson, Mike Lance, John Wong and Tom Horan, all of the Cable Services Bureau. The substance of those meetings is summarized in the attached presentation, which was used during the meeting.

Please contact the undersigned with any questions.

Very truly yours,

A handwritten signature in cursive script that reads 'Merrill S. Spiegel'.

Merrill S. Spiegel

Attachment

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List A B C D E

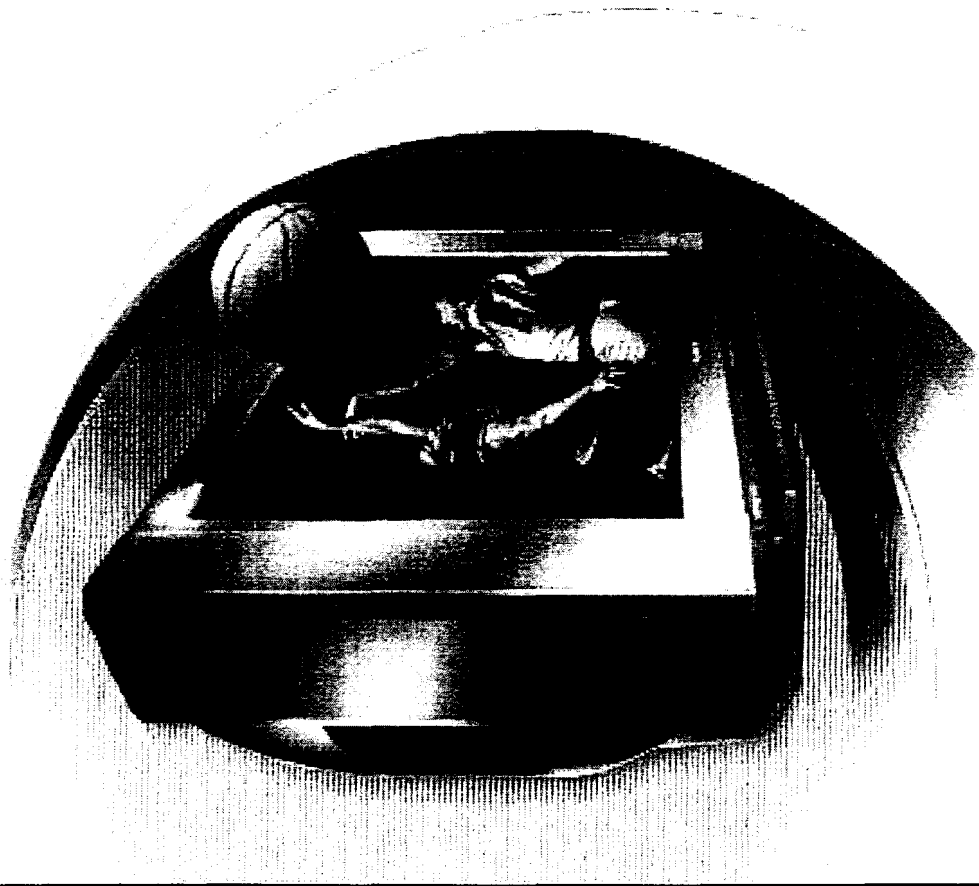
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A Unit of Hughes Electronics

DIRECTV



DIRECTV

Laura O'Donnell

Bob Plummer

Merrill Spiegel

Nathan Zerbe



Digital Rights Management

FCC 8/30/00

Digital Rights Management



Content

- ▶ Introduction
- ▶ The Problem
- ▶ Analog Interface
- ▶ Transition to Digital Interface
- ▶ Displays, Set Top Boxes and Recorders

Digital Rights Management



DIRECTV

- ▶ **#1 DBS service in the world with 8.7 million subscribers**
- ▶ **Service launched in June 1994**
- ▶ **Interactive program guide / parental controls**
- ▶ **More than 225 channels**
 - **More than 47 PPV channels**
 - **Local broadcast channels available in 31 markets**
 - **DIRECTV Para Todos™ Spanish-language programming packages**

DIRECTV

DIRECTV Manufacturers



HUGHES
NETWORK SYSTEMS

TOSHIBA

zenith



HITACHI

REAL

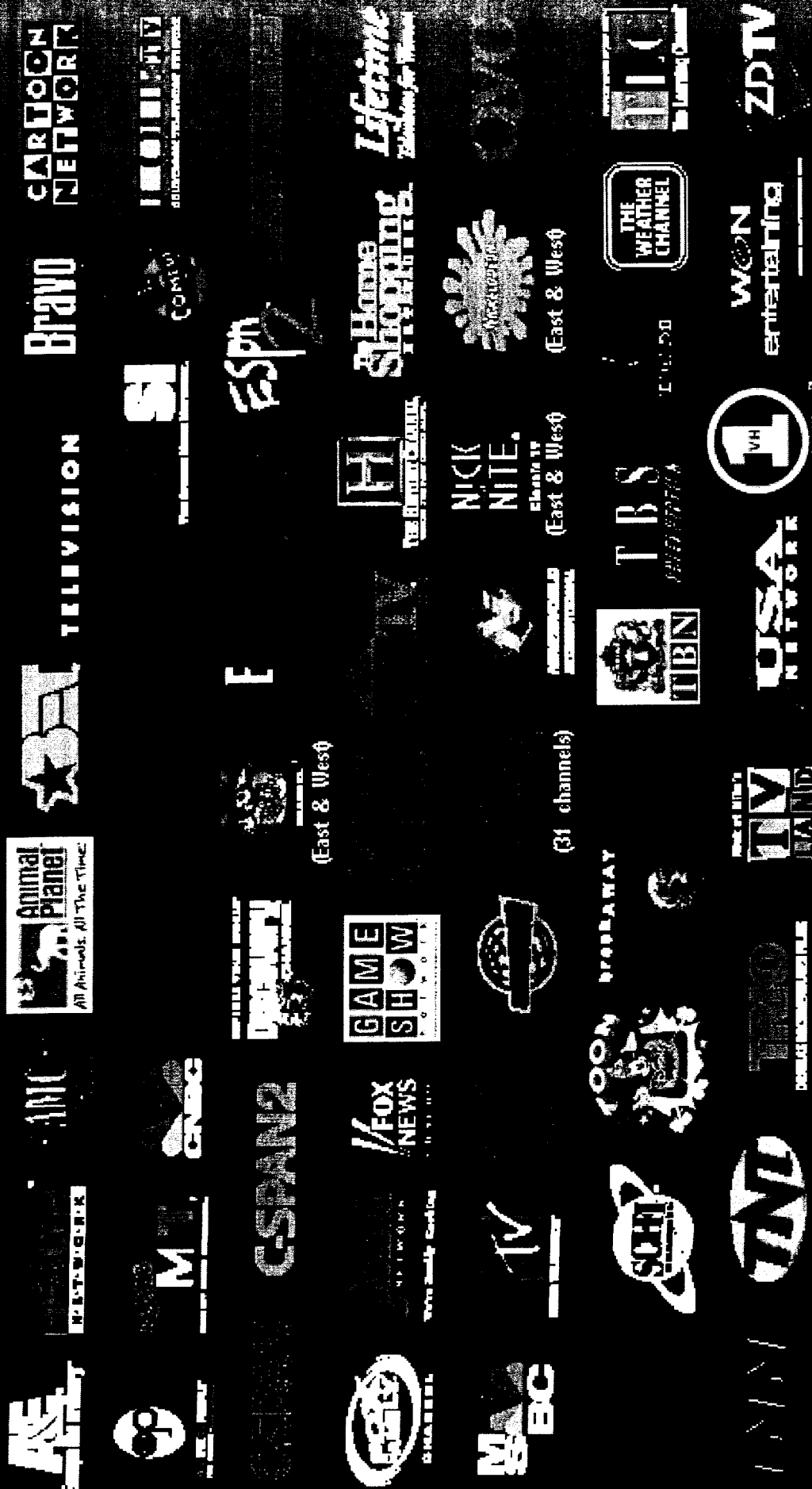
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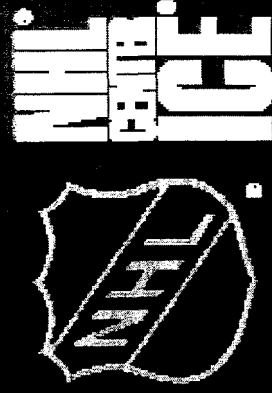
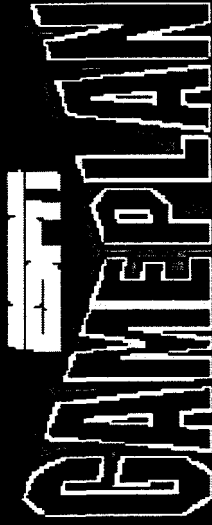
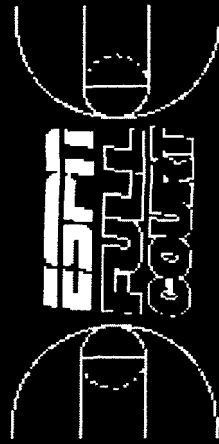
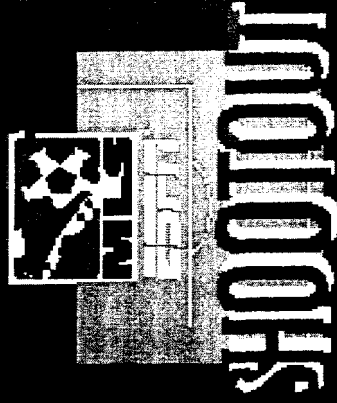
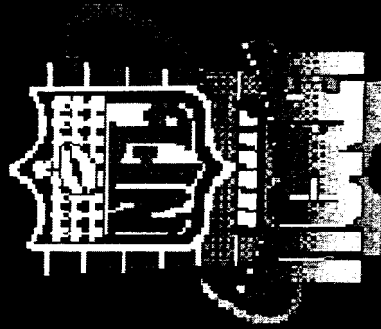
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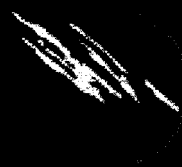
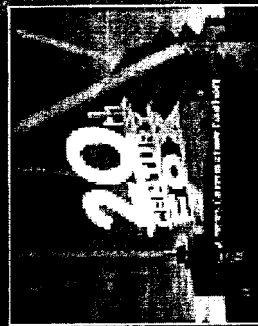
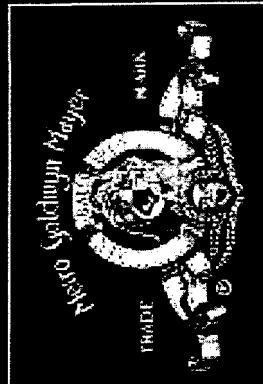
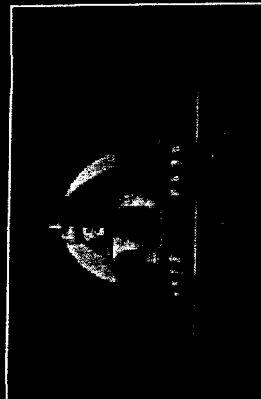
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DIRECTV® Sports Subscriptions



DIRECTV

DIRECT TICKET® Pay Per View



NEW LINE CINEMA

Walt Disney
Pictures

Digital Rights Management



DIRECTV HD Experience

- ▶ **Demonstrated HDTV at 1998 CES**
- ▶ **Deployed HDTV in September of 1999, 24 hours per day, 7 days per week**
 - **HBO HD channel**
 - **1 combination PPV (evening)/in store demo (daytime)**
- ▶ **ATSC/DIRECTV TVs and receivers available from 3 manufacturers, with more to come this fall**

Digital Rights Management



The Problem

- ▶ Slow roll out of ATSC digital television and limited HDTV content
 - Digital rights management solutions not well understood by most
 - Piracy concerns

Digital Rights Management



Analog Interface

- ▶ **Today analog is only HD interface for all HDTVs**
- ▶ **DIRECTV HDTV set tops include an analog HD interface with:**
 - **CGMS (copy guard management system) included (CEA-805)**
 - **Down conversion and output control capabilities**

Digital Rights Management



Analog Interface

- ▶ **By contract, all DIRECTV HDTV manufacturers must honor CGMS in any recorders they build**
- ▶ **There are NO HDTV analog consumer recorders in the market**
- ▶ **Yet HD content is still not readily available**
 - **Content providers have indicated encryption of content is necessary**

Digital Rights Management



Transition to Digital interface

- ▶ **Multiple industry groups are working on two types of digital interfaces**
 - **Uncompressed digital [e.g., Digital Visual Interface (DVI)] with HDCP rights management**
 - **Compressed digital, 1394 (firewire) with 5C rights management**

Digital Rights Management



DVI and HDCP Features

- ▶ Uncompressed digital component distribution
 - Lower cost solution for displays
 - Plug and play interface simplicity similar to analog connections today
 - Uncompressed signal not well suited for recording or illegal distribution
- ▶ HDCP not licensable to recording devices
- ▶ Full user interface and graphics capability
 - Enables rich interactive services

Digital Rights Management



1394 and 5C

- ▶ **Compression technology requires more expensive display**
 - **MPEG decoders must be supplied in both set top and display**
 - **User interface is constrained by capability of display**
 - **Severely limits interactive functionality**
- ▶ **Compressed signal well suited for recording and easy distribution by consumer**
- ▶ **5C permits computers to receive services with less restrictive protection requirements**

Digital Rights Management



DIRECTV Endorses DVI-HDCP For Display Connection

- ▶ **DVI HDCP meets the security requirements of content providers**
- ▶ **Plug and play simplicity**
- ▶ **Unrestricted user interface capability**
 - **Feature-rich electronic program guide**
 - **Set-top application expansion is not restricted by the display capabilities**

Digital Rights Management



DIRECTV Is Not Alone

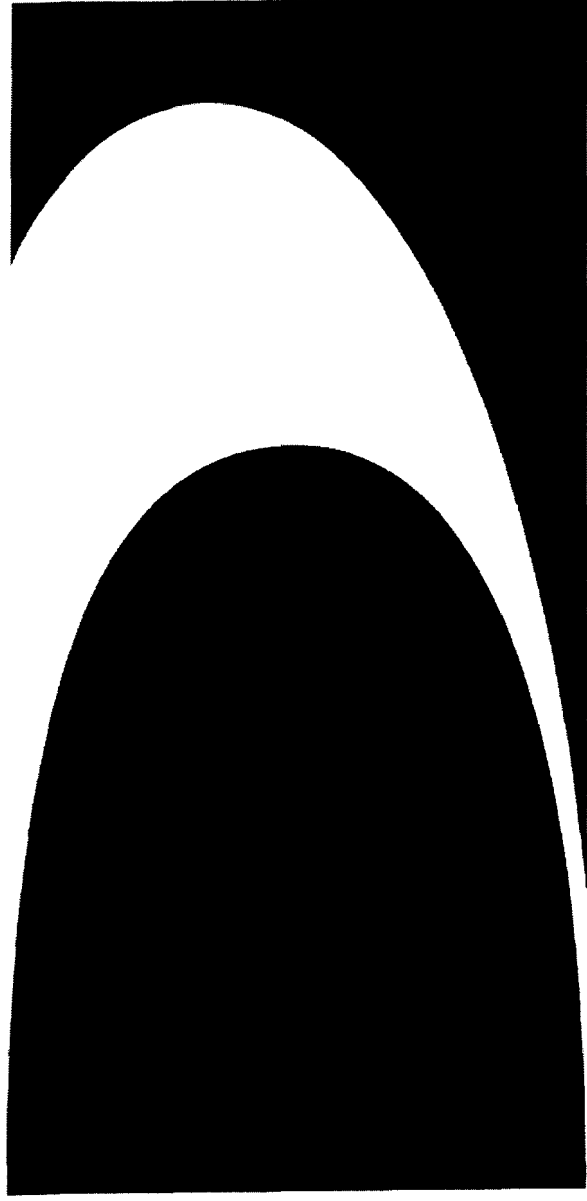
- ▶ **Content providers support DVI**
 - **News Corp., Time Warner, Disney/ABC**
- ▶ **Multi-channel providers support DVI**
 - **DIRECTV, EchoStar, CableLabs**
- ▶ **CE manufacturers support DVI**
 - **Thomson, JVC, EchoStar, CableLabs**
- ▶ **All industries collaborating on a standardization effort through CEA for an uncompressed interface**

Digital Rights Management



Realities of Deployment

- ▶ Both 1394 and DVI-HDCP are not yet available in display devices
- ▶ The analog gap
 - Analog interfaces will be manufactured for many more years



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